Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC- SEMESTER– VIII• EXAMINATION – Winter-2016

Subject Code: X80603 **Date:22/10/2016**

Subject Name: Urban Transportation System (Department Elective II)

Time:02.30 pm - 05.00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** What is development plan? Discuss levels of transportation planning in detail. **07**

(b) Define travel demand. Explain factors affecting travel demand. **07**

Q.2 **(a)** Explain study area. How study area is divided in to traffic zones? Discuss with sketch coding. **07**

(b) Discuss steps in transportation planning process with flow chart. **07**

OR

(b) Enlist the various transportation surveys to be carried out in planning process. Discuss any one in detail. **07**

Q.3 **(a)** A study area has been divided in to four zones A, B, C and D. The present trip distribution matrix is given with produced trips and attracted trips. **07**

Develop the future trip distribution matrix using (i) Uniform growth factor method and (ii) Detroit method

D / O	A	B	C	D	Future Produced Trips
A	-	40	50	35	225
B	40	-	60	35	270
C	35	50	-	40	250
D	50	65	35	-	300
Future Attracted trips	200	345	320	180	

(b) Explain Multiple linear regression method with its assumptions. **07**

OR

Q.3 **(a)** Discuss growth factor methods and their limitations. **07**

(b) Why screen line check and accuracy check are done in transportation survey? Discuss in detail. **07**

Q.4 **(a)** What are the types of trips observed in urban transportation? **07**

(b) Describe methods of modal split with its advantages and disadvantages. **07**

OR

Q.4 **(a)** Discuss the factors affecting trip generation and attraction rates. **07**

(b) The total trips produced in and attracted to the three different zones X, Y and Z of a survey area in the design year are as follow **07**

Zones	Trips Produced	Trips attracted
X	2500	3000
Y	3000	3500
Z	3500	2500

The trips between two zones are inversely proportional to the second power of the travel time between zones, which is uniformly 20 minutes. If the trip interchange between zones Y and Z is known to be 600, Calculate the trip interchange between zones X and Y, X and Z, Z and Y.

Q.5 **(a)** Define 'Corridor'. What is corridor identification? Discuss corridor screen line analysis. **07**

(b) Compare characteristics and capacity of bus and rail transit system. **07**

OR

Q.5 **(a)** Give classification of urban structures. **07**

(b) Write a short note on traffic management plan and comprehensive plan. **07**

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